

This office action is in response to amendment filed on 1/08/2008. Currently claims 1-20 are still pending.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Regarding claims 1 and 11, it is unclear what "guided only by at least one mirror" means. It is unclear whether there is only one mirror or at least one mirror? It is unclear what "only" modifies. Whether it modifies "one" or it modifies "mirror"? Clarification is required.

4. Claims 2-10 and 12-15 are rejected base on their dependency base on rejected claims.

5. Furthermore, it is unclear whether the mirror referred in claims 5 and 15 is the same limitation as suggested in the independent claim or it is an additional element to the limitations recited in the independent claims. Clarification is required.

6. Regarding claim 16, applicant claims "at least one mirror located at an end of said at least one light path in order to guide light emitted directly from said at least one light source to said at least one mirror...". There are two issues making the claims indefinite. First, it is unclear what is being guided? Whether "the light emitted" is being

guided or "the light emitted from said at least one light source" is being guided. Second, it is unclear how does "at least one mirror" guide the light to itself (see lines 5-7 on page 9 of the response). Clarification is necessary to determine the scope of the claim.

7. Regarding claims 17-20 are rejected because they inherent the dependence from rejected claim 16.

### ***Claim Objections***

8. Claim 12 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form. Claim 12 lacks structural limitations

### ***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 2, 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Block (U.S. Patent 4,850,044)

11. Regarding claims 1 and 11, Block teaches systems and method of operating comprising: at least one light source (21a, 23a) and at least one light sensor (20a, 22a) associated with at least one component (15a) of a data-processing system; at least one other light source (23b) and at least one other light sensor (20b, 22b) associated with at least one other component (15b) of said data processing system; and wherein data is

communicated between said at least one component (15a) and said at least one other component (15b) of said data-processing system by transmitting light from said at least one light source (23b) to said at least one sensor (20a) and from said at least one other light source (21a) to said at least one sensor (22b) wherein said light travels either directly or is guided only by at least one mirror from said at least one light source to said at least one other light sensor and from said least one other light source to said least one light sensor.

12. Regarding claims 2 and 12, as understood, Block teaches at least one light patch established between said at least one component (15a) of said at least one other component (15b) of said data-processing system in order to communicate data by light among said at least one light source, said at least one sensor, said at least one other light source and said at least one other sensor. (Fig. 2)

13. Claims 1, 5-9, 11, 15, 16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Osmon (U.S. Patent 5,933,608).

14. Regarding claims 1 and 11, Osmon teaches (Figure 10) at least one light source (light emitter embedded in 1004) and at least one light sensor (light detector associated with 1004) associated with at least one component (1000) of a data-processing system; at least one other light source (light emitter associated with 2004) and at least one other light sensor (light detector associated with 2004) associated with at least one other component (2000) of said data-processing system; and wherein data is communicated between said at least one component and said at least one other component of said data-processing system by transmitting light from said at least one light source (1004) to

said at least one other light sensor (2004) and from said at least one other light source (2004) to said at least one sensor (built in detector in 1004).

15. Regarding claims 5 and 15, Osmon teaches at least one mirror (501) for guiding light emitted from said at least one light source (1004) to said at least one other light sensor (2004) or light emitted from said at least one other light source to said least one light sensor.

16. Regarding claim 6, Osmon teaches (figure 10) establishing at least one light path patch between said at least one component (1000) and said at least one other component (2000) of said data processing system in order to communicate data by light among said at least one light source (part of 1004), said at least one sensor (part of 1004), said at least one other light source (part of 2004) and said at least one other sensor (part of 2004) and locating at least one mirror (501) at an end of said at least one light path in order to guide light emitted from said at least one light source to said at least one other light sensor or light emitted from said at least one other light source to said at least one light sensor.

17. Regarding claim 7, Osman discloses aligning said at least one component (1000) directly opposite said at least one other component (2000) in order to form at least one direct light path between said at least one light source and said at least one other sensor and said at least one other light source and said at least one light sensor. (see figure 10a)

18. Regarding claim 16, as understood, Osmon teaches (figure 10) at least one light source (1004) and at least one light sensor (built in detector in 1004) associated with at

least one component (1000) of a data-processing system; at least one other light source (built in light source 2004) and at least one other light sensor (detector built in 2004) associated with at least one other component (2000) of said data-processing system, wherein data is communicated between said at least one component (1000) and said at least one other component (2000) of said data-processing system by transmitting light from said at least one light source to said at least one other light sensor or from said at least one other light source to said at least one sensor; at least one light path established between said at least one component (1000) and said at least one other component (2000) of said data-processing system in order to communicate data by light among said at least one light source, said at least one sensor, said at least one other light source and said at least one other sensor; at least one mirror (502) located at an end of said at least one light path in order to guide light emitted directly from said at least one light source (1004) to said at least one mirror (502) and thence directly to said at least one other light sensor (2004) and light emitted directly from said at least one other light source to said at least one mirror and thence directly to said at least one light sensor.

19. Regarding claims 8, 9 and 18, Osman teaches (Fig. 10c) at least one component (1000) located perpendicular to said at least one other component (2000) in order to form a perpendicular light path (see figure 10c) between said at least one light source (part of 1004) and said at least one other sensor (part of 2004) and said at least one other light source (part of 2004) and said at least one light sensor (part of 1004), wherein said perpendicular light path is guided by said at least one mirror (501, which

located at 45 degrees). That is, the length direction of 1000 is perpendicular to the width direction of 2000.

***Claim Rejections - 35 USC § 103***

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 3, 4, 13, 14, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osman in view Kim (US 20020021855).

22. Regarding claims 3, 13 and 19, Osman discloses the invention set forth above. Osman does not teach the use of LED. Kim teaches the use LED (Col. 4, lines 50-55). It is well known to use LED as a light source. It would have been obvious to one in the ordinary skill in the art at the time of the invention to use LED as light source to improve reliability of the light source.

23. Regarding claims 4, 14 and 20, Osman discloses the invention set forth above. Osman does not teach the use of VCSEL. Kim teaches (Col. 4, lines 55-60) the use of VCSEL. It is well known to use VCSEL. It would have been obvious to one in the ordinary skill in the art at the time of the invention to use VCSEL to increase the amount of signal to be sent within a given amount of time.

***Response to Arguments***

24. Applicant's arguments filed 1/08/08 have been fully considered but they are not persuasive. Applicant's argument regarding 35 US 112 against claim 16 is found not to

be persuasive. As indicated in the rejection above, the claim languages render the claim indefinite. Clarification is required.

25. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

26. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TONY KO whose telephone number is (571)272-1926. The examiner can normally be reached on Monday-Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TKO

/Georgia Y Epps/  
Supervisory Patent Examiner, Art Unit 2878